

REMARKS

In the Office Action of June 29, 2005, the Examiner sets forth his position, arguing that claims 67-84 are not supported by applicants' parent application, Serial No. 09/041,901, which has since issued as U.S. Patent No. 6,350,319 ("the '319 patent"). The Examiner looks to the '319 patent and says that, in his view, claims 67-84 are not supported by the specification of the '319 patent. Thus, according to the Examiner, the claims cannot be accorded the filing date of that application, namely March 13, 1998 and, therefore, the Applied Materials '865 patent is prior art.

In the first portion of his argument, the Examiner says that the claims require a metal film deposited on at least the "first surface" and at least a portion of the unwanted film deposited on the second surface. The Examiner explains that the deficiency in the teachings of applicants' '319 parent patent revolves about the failure to disclosure metal film (Office Action, p. 3):

"The instant claims recite a method of removing a metal film deposited on the front side of a substrate and at least a portion of a back side of the substrate, thus indicating that metal film is deposited on both sides of the substrate. This is not expressly or implicitly provided by the specification of US'319. There is no teaching in US'319 about the deposition of metal film on both sides (which is not obvious), and thus about the present of the unwanted metal film on the second surface. There is no teaching in US'319 about 'unwanted film', which is recited in claims 67, 75, 82 and the presence of which is also not obvious."

Applicants disagree with the Examiner's position and ask the Examiner to reconsider it.

The disclosure of the '319 patent is directed to apparatus for processing a workpiece in which the workpiece, a wafer, is chemically treated in a processing chamber. For example, in column 9, the '319 patent specification describes processing tools in which a workpiece in the form of a semiconductor wafer is processed by electrochemical deposition in which copper is deposited on the wafer. The specification goes on to point out how wafers processed in that way can be treated with HF liquid on one surface while an inert fluid is applied to another surface. The specification thus makes it clear that the HF removes the copper deposition. The specification states (column 10, lines 38 et seq.):

"As such, the HF liquid is allowed to react with the lower surface of the wafer while the upper surface of the wafer is effectively isolated from HF reactions."

The Examiner's argument is that the '319 patent does not speak to unwanted metal film or indeed the removal of metal films at all.

As shown above, the specification does contemplate removal of copper deposition by HF. While the specification does not explicitly refer to unwanted copper deposition on one side of the wafer, it is well known in the art that such deposition is an undesirable consequence of copper plating generally. In other words, it is frequently difficult to control the plating such that no copper is deposited on, for example, the back side of the film. Therefore, when one skilled in the art examines the disclosure of the earlier '319 patent, the skilled worker

would necessarily understand that copper deposition by electrochemical means can frequently result in the deposition of copper metal on an undesirable side of the wafer and that the technique described in the '319 patent for removing material on one side of the film, while not describing material on the other side, is well within the teachings of the '319 patent.

And that, of course, is the standard which the Examiner should apply in determining what the '319 patent discloses. So the Court held in Bilstad v. Wakalopulos (Fed. Cir., 2004), 386 F.3d 1116. There, the Court held that the written description should be examined on the basis of what the specification suggests or teaches one skilled in the art. The mere absence of a specific description does not preclude the finding of an adequate disclosure.

In sum, the '319 patent teaches a method that permits any of the deposited materials described therein to be removed from one surface and not the other. That same disclosure describes that one of the deposited materials can be copper deposited by electrochemical techniques. Therefore, the '319 patent does support the claims as presented.

The Examiner is therefore respectfully requested to reconsider his position.

Even if the Examiner does not agree that an interference should be declared between the present application and the Applied Materials '865 patent based on the effective filing date of the '319 patent, applicants would urge the Examiner to declare an interference based upon Application Serial No. 09/437,926, which has since issued as U.S. Patent No, 6,413,436 ("the '436 patent") and has a

filing date of November 10, 1999. While applicants would not be the senior party, applicants believe that they can establish a prima facie date of invention for the subject matter of the claims prior to November 30, 1998, the earliest date available to the Applied Material '865 patent.

There can be little doubt that the '436 patent supports the subject matter of the claims presented herein. Indeed, for example, in column 2, lines 33 et seq., the '436 patent describes providing an etchant to remove material such as copper from both the front and a portion of the other side of a workpiece. The patent also describes, in column 6, lines 7 et seq., using an inert processing fluid to protect those portions of the surface which should not be disturbed. Thus, the '436 patent supports all of the limitations of the claims as presented.

In the event that the Examiner does not fully agree with applicants' position in that respect, applicants submit, as an additional group of claims, claims 85-99, which define patentably indistinct subject matter. Claims 85-99 call for two surfaces, but do not require that the surfaces necessarily must be on opposite sides. Thus, claims 85-99 contemplate those conditions in which an etchant is used to remove a metal film from one surface and a portion of a second surface (e.g., Fig. 2C of the '436 patent). One surface is the upper surface of the wafer while the 'second" surface is either the bevel edge 118 of the wafer or its outer periphery 116. One (or both) of surfaces of 116 and 118 qualify as the second surface from which removal of a metal film can be effected.

In view of the foregoing, even if the Examiner is not willing to declare the interference with applicants as senior party, an interference should nonetheless

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be declared with applicants as junior party based on the disclosure of the '436 patent. Such action is respectfully solicited.

Respectfully submitted,



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